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PROCEEDINGS

OF THE

High School Principals' Conference

HELD AT

INDIANA UNIVERSITY

November 14-15, 1924

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The Culture Needed by the Men and Women of Today

J. FRANKLIN BOBBITT

SOME ten years ago there was appointed the "Commission on the Reorganization of Secondary Education." The name of the commission indicated that there was dissatisfaction with the program of secondary education. It needed to be reorganized.

The work was mainly done by some fifteen subcommittees each dealing with the reorganization of secondary education in some particular department. The presence of the subcommittee indicated dissatisfaction with the work of the department which it was to reorganize.

The general commission and the several subcommittees did their work and passed away. But secondary education has not yet been reorganized. Some of the committees made reports which have been of distinct value in making certain forward steps of progress. They made contributions; but they did not reorganize secondary education. And with the possible exception of two of the reports the contribution was negligible in amount.

Looking back upon the work of the commission and subcommittees, it is clear that they did not really see the nature of the work that was to be done in the reorganization of secondary training. They knew very well indeed what constituted the secondary training of their day; but they were apparently unable to visualize that type of secondary education which was needful for the new conditions of our more complex age. They had a vague sense of the inadequacy, inappropriateness, and irrelevancy of much of their program. They could not fully intellectualize these matters, however, until they could visualize the program as it ought to be and place this up against the program as it was. Could they have visualized both the old program and the new program then they could have seen their task; and in their reports they could have told us how to move with ease and certainty from the old position to the new and needful one.

At present there are national committees, state committees, and local committees, working actively and earnestly in a reformulation of the program of education upon all of its levels from the kindergarten to the end of the junior college. These committees prove on the one hand the failure of the older commission to point the way, and on the other they prove that dissatisfaction with the program yet remains. This prodigious amount of constructive work going on reveals our professional belief that the schools are not doing what they should or all that they should.

The present can be characterized as a transitional period. We are changing from one conception of education with its practices over to a new conception of education with quite different practices. There can be no doubt but that the older commission on the reorganization of secondary education was well named. The thing actually needed is a complete *reorganization.* It is not to be a mere improvement of the older plan of work. That plan was built upon a conception of education which we can no longer accept. We need a type of education built upon another conception which we can accept. These two conceptions are so different as to demand fundamentally different plans of organizing secondary education.

To make the matter clear, let me call attention to five conceptions of education. In terms of each conception let us answer the question: Who is the well-educated man?

I. We must first mention the ancient common-sense functional conception of education which existed before schools were invented. In that day the well-educated man was the one who could perform well all of those human activities which in that day made up the several aspects of the life of the competent man. He was educated not in the specialized school which does its work apart from the community life; but rather in the Great School of the community life. The adult generation was the teacher of the juvenile generation. This generation learned by looking on, by observing the patterns set by their elders, and by imitating them as they participated within normal conditions in the community life. For its day, this was a healthy, normal, and sufficient education. We must note the conception and the plan, since the basic conception underlying the new education of our own day is but a return to this ancient conception, but employing it under the new conditions of complex civilized society.

II. A second conception: The well-educated man is one who has acquired the ability to use certain traditional but relatively obsolete or non-functioning tools of thought and communication and who has acquired a general discipline by specializing in these matters. The specific instruments of thought and communication employed are the ancient non-functioning languages, and the so-called higher mathematics, commonly employed on the secondary school level. This conception that specializing in the classics and mathematics will make the well-educated man is widely held by the laymen of the community on all social levels. It is less widely held by our profession.

III. A third conception: The well-educated man is one who has specialized in one or two lines of learning of almost any kind, who has acquired a technique of study and research in those lines, and who has acquired general discipline thru this specialization. This is but a modernization of the foregoing conception. It is designed to let the departments of science, history, English, etc., into their proper portion of the program. It is but to say, Let the student specialize in science or history rather than in Latin and thus will he secure an education. The subject itself is a matter of indifference; it is the general discipline which he secures thru his specialization which is after all the major

matter. And so, under this conception, we permit students to take a major in almost any department and a minor or two in almost any other department.

IV. A fourth conception: The well-educated man is one who has stored away in his memory large bodies of information, mostly inert and undigested, which he is prepared to exhibit, unchanged and unassimilated, upon the call of the examination. Operating upon the basis of this conception we give our highest marks to those who can exhibit to us the largest amount of information. This is the encyclopedic conception, tho specialized according to the dictates of the third conception stated above. It is often called the cold-storage conception of education.

V. A fifth conception: The well-educated man of today is one who is competent in the performance of that wide range of specific human activities which makes up the life of the competent man of today. It is to assume that life consists of living, that it is one hundred per cent behavior,—both subjective and objective behavior,—and that education is preparation for a proper performance of those activities which constitute the life of the civilized, cultivated man. The task of education is to take the juvenile generation in hand and to bring them properly to live the life of the adult generation as this is lived by those who have learned how to live it. It is to bring them to live, not merely to remember textbook information. It is to bring them to do all things properly which ought to make up the life of man, not merely to use obsolete non-functioning tools of thought and communication, or a non-functioning power of study and research along some specialized line. This conception is not interested in academic irrelevancies. It looks squarely to the life of man.

We call this the new conception of education and yet it is but a return to the ancient common-sense functional conception of education which existed before schools were invented. It is an application of this world-old conception to the complex conditions of the third decade of the twentieth century.

According to this fifth conception the well-educated man is one who has become competent in performing those activities in proper ways which make up each of the several major fields or regions of man's life. We are not certain what all of these fields are. We can, however, be certain of many of them:

I. The well-educated man is competent in the maintenance of his health and general physical efficiency. He manages his food activities at all times in such a way as to promote maximum well-being. He keeps the body mechanism properly oxygenated. He utilizes bodily exercise as the life-long means of maintaining his powers upon a high level. He participates in a variety of physical recreations. He maintains a proper balance of work, play, rest, sleep. He protects himself from invasions by microörganisms and deals effectively with the invaders in the occasional times when they elude his watchfulness. He utilizes the benefits of good posture, personal cleanliness, sunlight, quiet, emotional excitation, emotional serenity, diversity of experiences, and the like, in the interests of physical well-being. He sees that his various

mental and emotional states and activities are conducive to good physical condition. He is prompt and certain in the care of the teeth and the eyes and those other portions and organs of the body which easily suffer from neglect or misuse. He is competent in performing his due portion in the care of the health of his family.

In this health field, the well-educated man is not merely one who has an abundance of cold-storage textbook information relative to matters of physiology, hygiene, and sanitation. Quite the contrary, it is the man who has the ability, the habit, and the disposition to perform the several activities which we have enumerated. In this field the cultivated man is not the one who merely *knows*, it is the one who *does*.

II. The well-educated man of today is one who is competent in the use of those tools of thought and communication which need to be currently used by the generation of today. Specifically this means that he should be able to use the English language in the ways in which we actually use this language. He must be able to talk in an agreeable way, to pronounce his words properly, to use language that is grammatically correct, to employ an adequate vocabulary, to read and write, to spell the words which he writes, to write letters, memoranda, reports, and other simple matters, and to employ good form in his written productions. Along with the English language there are certain other tools of thought and communication which he needs also to use. There is our mathematical system which figures in everyday life, in our thought and communications by way of making them quantitatively accurate. One needs to be competent in using such portion of this mathematics instrument as men and women actually are called upon to use. He needs also the power to use maps, pictures, drawings, graphs, and diagrams as necessary instruments of his thinking. But here again it is the *power to do* and the *habit of doing*. It is not mere knowing. As a matter of fact most of it is and should be automatic and unconscious.

III. The cultivated man of today is able to coöperate with his fellows of local community, state, nation, and world in general in the efficient promotion of the general welfare of the local community, state, nation, and world in general. He has from year to year a clear vision of social groups, agencies, and institutions, their responsibilities and their rights, the services which are to be performed by each, and the conditions necessary for the proper performance of such services. He continuously participates in that enlightened public opinion relative to our innumerable social groups and agencies which is necessary for their effective and beneficent operation within our complex society. He has the power and he continually uses his power of judging the labors of agencies, institutions, officials, etc., in the light of general economic and political principles. He has that vision of human affairs which enables him to protect himself from social, economic, and political fallacies, illusions, misrepresentation, sentimentality, and self-seeking propaganda. He can see the several elements of human society in such clear perspective and relation that he can judge with certainty where things are earned by individuals, classes, groups, and agencies and where they are

not earned; where things are owed, and where they are not owed. He will be active and diligent in the conduct of his vocation to the end that it may be an agency in the promotion of the general social welfare. He will actively participate in the discussion of public questions by way of doing his share in the development and maintenance of a wisely controlling public opinion.

IV. In his *general meeting and mingling* with his fellows at home and abroad he will be considerate and courteous. He will automatically and relatively unconsciously comply with the usual forms and conventions which facilitate human association. He will exhibit entire honesty and straight-forwardness in his dealings with others.

V. In large part, thru a wide repertory of *leisure occupations*,—social, physical, intellectual, and aesthetic,—he will develop and maintain his personality. He will observe and read widely. Thru reading he will participate vicariously in the multitudinous affairs of the world of both past and present; and fully enter into the thought and moods of those who have been providing the world's leadership. His conversation will be of that sort which tends to upbuild and to maintain a high and cultivated personality. He will habituate himself to looking beneath surfaces of things at the deeper underlying realities. He will spend much time in quiet thought in turning over, evaluating, and assimilating his observations and experiences. As he travels and observes he will see not merely the external appearance of things as would a child or savage; rather will he see the deeper and wider significances and relations. He will utilize music for expanding and intensifying his inner life in a specialized and mechanized age. Likewise will he employ literature, the drama, the theater, and other fine arts for such emotional awakening and intensification upon a proper humanistic level. He will have a repertory of outdoor leisure occupations which he habitually employs for the maintenance of his physical and social personality.

VI. As a member of the home, he will be competent in performing a variety of practical unspecialized activities involved in the care of the garden, the lawn, fences, the motor car, the household heating, plumbing and electrical systems, and the like. He will make unspecialized repairs, adjustments, and sometimes even additions to the house in furniture and other equipment. He will keep the things in order for which he is responsible. He will see that all arrangements are made by way of protecting the home from fire. He will be competent in the performance of many business operations involved in the upkeep of the home. He will love labor and perform labor in promoting the welfare of the home when that is the effective and economical method of getting the labors performed.

VII. He will be competent in discharging his responsibilities in the upbringing of his children. He will evaluate their general ability and their special characteristics and aptitudes; and he will condition and direct the experiences of his children to the end that they may unfold their powers fully and normally. He will recognize that he is just as fully responsible for the education of his children as for their food, clothing, health-care, recreation, and the rest,—however much he

may coöperate with outside specialized agencies in getting these several things accomplished. He will coöperate continuously with schools and other agencies in the provision of the opportunities for educative experiences.

VIII. The well-educated individual is vigorous and efficient in performing the activities of his calling. He sees his occupation clearly as one of the necessary lines of social service. He pushes his labors vigorously and he holds to high standards of performance for the sake of a maximum promotion of the general welfare.

IX. Of all of his activities outside of purely physiological ones, the one in which he will engage most continuously and abundantly is that supreme activity of man which we shall somewhat figuratively call the activity of vision,—by which we refer to his life-long apprehension of reality. He will be unceasing in his looking out upon and into the world of man, human institutions and agencies, nations, peoples, the physical background of man's life, plant world, animal world, physical world, the stellar universe, and all fields of reality near and far which enter into man's experiences. He will have a broad and proportioned vision over all reality so far as it is given man to have such vision. And not as animal or child or savage, he will see beneath the shell of things to the spirit, the inner essences and significances. Intellectually he will be a see-er, not a blindling. He will see the realities in such clear relation as to provide the highest possible series of humanistic valuations. His vision of all reality, so far as it is given man to view this reality, will be his inspiration, his worship, the background and substance of his intellectual life, the thing which more than anything else he is. Above all other activities which we have enumerated, this activity of vision, whether eager or serene, is the culture of the cultivated man.

X. And finally we would say that the well-educated man is one who engages abundantly in those high humanistic activities, mainly subjective, which make up one's religious experiences. He sees mankind in world distribution, past, present, and future. He sees the race as a unit in origin, in nature, in vicissitudes, in destiny. And out of this vision grows his sense of human brotherhood and his general world-group consciousness. Equally he sees the physical substratum and background of human life under the forms of eternity as a vast and restless sea of forces and phenomena, infinite in extent, subtlety, and complexity—a thing of wonder as endless as man's life itself. Within all this he catches for himself such glimpses as are permitted to finite vision of the Being which actuates the universe.

In doing all of these things *he lives*. If he does them well, he is well educated, whether he has ever gone to school or not. If he does them badly, it matters not how many years he may have been in school or college, he is not well educated.

Education has only one task: It is to bring him *to do* them well. It is not a matter of traditional subjects, or textbooks, or credits, or courses. It is wholly a matter of his competently performing those life's activities which characterize the competent man.

We have thus been able to give a definition of the cultivated man without referring to subjects at all.

Ordinarily when we think of education we think of schools. The educative process seems not to exist except at schools. It is mainly, we ordinarily think, a matter of teaching school textbooks. Sixteen units of subject-matter constitute secondary education.

This conception has been reduced to mental habit; and it has been growing more and more entrenched with the years. But at present as we change from this ancient conception to a functional conception, a rapid liquefaction of our ideas is actually taking place. There are reasons to think that this simple conception of education will disappear rather speedily. We appear to be upon the verge of what, to use the terminology of the biologist, we may well term an educational "mutation".

I doubt if one can see education truly so long as he sees it mainly as a matter of schools and subjects and the teaching of studies. He will not see it truly until he sees it as a social process,—a process which went on for thousands of years before schools were ever invented, and which is after all the major educational process even after schools are invented.

And now let us ask a final question: If the well-educated man is one who *lives* in a certain way, what must the *process* of education be?

Quite obviously, it must be to live in that way. One learns to do a thing by doing it. There is no other way. He may need a pattern set by others. He may need at times technical information for self-guidance of his activity. And yet after all it is the performance of the activity itself which develops within him the power to perform it with ease, certainty, and continuity. According to this conception of education, the ends of education are life, and the means of education are life. The process of right living is the process of education.

In conclusion, let us summarize with this statement: The well-educated man is one who habitually and consistently performs all of those specific activities which characterize man's life upon a high humanistic level, and who has come to do so by performing them, according to the level of his maturity, from his early years onward.

The Objectives of Secondary Education

J. Franklin Bobbitt

The term "educational objective" is not yet very well understood. In my conferences, after I have discussed objectives for a long time, someone is almost sure to ask, "But just what do you mean by educational objectives?" So let us begin by defining the term.

The educational objectives are simply the specific *results* that we are trying to secure. In history, for example, we may be aiming at a memory of a long series of events and dates. In that case those specific memories are our objectives. They are nothing other than the results in anticipation. We might call them the educational aims. But we have long used the latter term to refer to certain broad purposes rather than to the multitude of detailed results. Those broad but ill-defined aims have never really got us anywhere. They have been ornaments to our discussion, but they have not helped us, or guided us in our work.

Education is becoming scientific. This means that everything, so far as practicable, shall be definite, quantitative, and exact. Our aims or objectives therefore can no longer be such vaguenesses as "character building", "culture", "self-realization", "general discipline", or "social efficiency"; nor yet even such general things, undefined in terms of human life, as knowledge of algebra, knowledge of chemistry, knowledge of ancient history.

Education is becoming impatient of all aims or objectives except those that are reduced to particulars in terms of human needs and human life.

In discovering the objectives, we must start out with certain basic assumptions. One of them appears to be this: *Human life is one hundred per cent conduct.* Some of this conduct is outward and objective—what we call practical conduct. More of it, certainly the spirit and essence of all of it, is the inner conduct of the subjective life. But taking both, the inner and the outer, the substance of man's life is behavior, conduct, activity.

This conduct does not exist as a vague general thing. It exists only as a multitude of particulars. It is *doing the specific things* involved in home life, care of the health, civic adjustment and control, vocation, recreation, use of language, religious life, and the like.

These specific activities can be discovered and defined. Life as a mosaic of activities can be laid out before our eyes. The first task of the curriculum-maker is to discover what these activities are. Then the task of education is to develop within each man and each woman the specific powers to perform these specific activities. It has no other

function. In spite of the obvious fact that this is not yet our conscious program, we still must say that education, when accurately and scientifically focussed, can have no other function.

We must note, however, that these activities, as they make up the life of a man, may be of very different quality. One man may be living on a plane of high vision and aspiration and exhibiting in his conduct all that characterizes enlightened and purified humanity at its best and highest. His neighbor, without humanistic vision or aspiration, may be living the primitive, materialistic, and predatory life of the jungle. And between these two, one may find every possible level of conduct from low to high.

As the educator lays out that mosaic of conduct which is human existence, he will hold to that which is best. In Dr. Charters' analyses of secretarial activities, he selected secretaries who were proficient in their calling. When we would discover the activities that should make up the calling of farming, we should first find those farmers who have been most successful in their labors. In discovering the activities required for maintenance of health, we should analyze the conduct of those whose success proves the value of their methods.

The method of activity-analysis is basic in the discovery of the conduct objectives. It is everywhere being used. We are trying to learn how to apply it to all phases of education.

In time these investigations will provide us with a comprehensive and professionally accepted series or list of detailed educational objectives, each stated as an activity, or as the ability and disposition to perform an activity. An example of the *sort* of thing I have in mind is the list of several hundred activities making up human life which we drew up at the University of Chicago and used in the high school curriculum-making in Los Angeles. That list is but a pioneer and largely personal suggestion. In time the investigations referred to will give us an authoritative series.

Present labors indicate that it will be stated in terms of activities and specific abilities.

When we have it before us, then we can for the first time know *in terms of human life* what education is trying to accomplish. We have taught our science and our history, our Latin and our geometry, in almost entire obliviousness of what they were to signify in terms of human life. We have developed rationalizations by way of solacing our consciences; but when we put those rationalizations up against the solid realities of man's life they are pretty vague and unsubstantial.

When we have our educational objectives in terms of activities, then we can discover the *means* that can be effective in achieving the objectives. We can discover the subjects or departments that are called for, and can note those that are not called for. We can discover the content of each subject that is called for, and the content not called for. The subject must be but a means to a previously determined end; and each detail of each subject must be but a means to a previously determined end.

We are not merely to assume the presence in the program of the traditional subjects, and then scurry about to find justification for those subjects, and their objectives. Quite the other way about, we will let the educational objectives themselves call for the subjects which are needed. Subjects which may have been in the program and which are not called for will remain outside the program. Subjects which have not hitherto been included in the program but which are called for by the objectives will be placed in the program.

When we employ this plan of letting the objectives call the subjects into being, we meet with a fundamental problem of secondary education which has never been properly considered, much less solved. This is the problem of what constitutes general or unspecialized education and its relation to specialized or vocational education.

In the analyses that we have made, we discover ten broad fields of human action. These are communication, health, citizenship, social meeting and mingling, leisure occupations, religion, parenthood, unspecialized practical arts, that broad field of mental activity which we more or less figuratively call vision, and finally vocation.

The first nine of these ten fields are common to all individuals whatever their walk, station, or position in life. To educate them for proper living in these nine fields is to confer a type of education which is of universal or general need. We shall therefore call this *general education.*

In the tenth or occupational field, individuals are specialized. One does one series of things and another does a wholly different series of things. The education given to one group is wholly different from that given to the other group. Occupational education is specializing education and any type of specializing education is not generally applicable to all persons.

General education on its earlier level we call primary; on its later levels, we call it secondary. But the specializing or occupational education is an entirely different sort of thing which should usually follow *after* the general education is finished. We might well call it tertiary education. Such a term would help us to make a distinction which at present so greatly needs to be made. Failure to make this simple distinction between secondary or general education and tertiary or occupationally specialized education has resulted in an enormous amount of confused thinking and confused practices. And this confusion has been specially injurious to general education.

In Mr. Adams' report this afternoon, we had a good example of the way this confusion enters in, to the detriment of the program. He asked the students of Johnson County what they were going to do in life, preparation for which they were attending the high schools. And they said they were going to become stenographers, teachers, farmers, engineers, etc. They were going to perform *vocational* labors. They appeared to have no conception that high school education was to prepare them to perform any other kind of activity. Not one said that he was getting an education in preparation for discharging his functions as a citizen, or to enable him successfully to care for his health, or

to fit him to utilize high-grade recreational opportunities, or any of the other nine things which make up man's larger and more general non-vocational life.

The students are not to blame for this. We who talk education talk the language of vocation and not the language of general living and of general education.

We are here concerned only with the secondary education and not with the tertiary. We are therefore concerned only with the nine series of educational objectives and not with those of an occupational character. Secondary education is general education; and the vocational is no part of it.

The subjects that we should have in general education are those called into being, or called for as means, by these nine groups of activities. As best I can make them out, they are about as follows:

(1) English language: reading, oral and written expression.
(2) Citizenship attitudes, judgments, and activities. Social studies.
(3) Literature: English and general.
(4) The several science fields.
(5) Everyday mathematics.
(6) Physical training, hygiene, sanitation.
(7) Unspecialized practical arts.
(8) Musical appreciation and judgment.
(9) Art appreciation and judgment.

Besides these nine departmental lines of general training, there appear to be no others employed at present which are called for with certainty. These are the lines of training that are designed to develop human beings into the full stature of humanity. This development begins in the elementary school, continues thru junior and senior high schools, reaching its culmination, so far as this occurs in school, on the level of the junior college. All of these schools are aiming at the same full unfoldment of the powers of the same human beings. They differ only in that they are working upon the different levels of advancement. The lines of growth, the abilities and personal qualities aimed at, are the same thruout.

This means that the lines of educational work going on in the junior high school should be the same as within the elementary school only upon a more advanced level. The lines of training in the senior high school should be the same as in the junior high school except that they represent a further expansion. And in turn the lines of training needed upon the junior college level are the same as in the lower schools. Simply the junior college is taking care of the culminating level of the process. In terms of lines of training, subjects, and departments, it appears that the several schools will not differ among themselves.

Should one specialize during secondary education along one or another of these lines? We have been enumerating those things which are of general need to any man or woman. All of them enter into a properly proportioned training. What is properly proportioned for one may be somewhat different from what is properly proportioned for another; but there is no such disproportionateness in human character as to indi-

cate the need of anybody's specializing in any one of these nine departmental lines. In general education of a functional type, there cannot be any such thing as majoring in this subject or that. All persons are to have all, and in a balanced manner.

While there is not to be specialization, yet there must be differentiation. Some have a general intelligence quotient of 80, others 100, others 120, others 150. Those of large intellectual calibre can achieve heights that are wholly impossible for those at or near the average. And the latter can achieve results which are impossible for their still weaker brethren. Education will attempt to do justice all around. It will seek to assist each to the fullest practicable realization of all of his powers. Since these are so different, it will not be possible to give the same training to all in the same classes. There must be training for the low-grade intelligence in courses and under conditions which are entirely appropriate for them; and they should be carried as far as they can go. For those at or near medium capacity, there is needed a different training, and they will be carried as far as they can go. For those of large native capacity there should be a third and appropriate program. Its purpose is to carry them as far as they can go. They are to be the leaders of society, the ones who must provide it with its major vision, take the initiative, and bear the major brunt in advancing civilization. They need all the preparation which they can get,—for the sake, not merely of themselves, but of society as a whole.

This differentiation on the basis of native capacity and aptitude is not specialization of the sort with which we have been familiar. All groups are trained along the same lines, and for the same general fields of human living. Simply some go farther than others because they can do so. It appears to be deplorable that there is such a large number with the lesser ability. Our institution, however, is not responsible for their presence. Our function is to do all for them that is possible. More than this none can do.

While there are only certain general lines of training which appear to be fundamental, yet it appears that there should be no upper or outer limits placed upon the training which anyone secures in any one of these lines,—so long as his program is reasonably well balanced. Let him, for example, secure the vision provided by science. But let there be no outer limits beyond which we say that he should not go. Clearly the science vision should be an expanding thing from life's beginning to its close. Let each go as far as he will upon each of the age levels. Let us provide the conditions that will permit him to take generous advantage of this field of intellectual opportunity. Let us place no limitation except that which is placed by the requirement that he secure a sufficiency of training along each and all of the several lines.

Equally, in the field of language, whether English or foreign, so long as his entire program is reasonably well balanced, let him go as far as he will. Let us encourage him to do so.

The principle involved applies to every line of the training.

Any such functional view of the objectives calls for a thoro-going revision of our ideas relative to constants, electives, graduation standards, and specialization upon the secondary level.

The High School Principal's Responsibilty in Curriculum Construction

J. Franklin Bobbitt

For a good many years we have been hearing the term "The New Education". One is sometimes rather impatient with the term. It seems to be a phrase of those who have some new detail or some more or less new theory to exploit, or nothing more than some old theory expressed with a new set of words. One has good reason usually to be suspicious of the innovator who proclaims some new system of education.

And yet as one notes the clear trend, both in educational theory and in practice, there appears to be much justification for calling the type toward which we are moving a "new" education. Actually we seem to be changing from an older subject-storage general discipline conception and practice over to a genuine human development conception with its quite different purposes and practices.

We have looked upon education as an almost wholly academic process going on within the academic precincts. Even the "home work", as we have called it, has been preparation for the academic exercises. But more and more we are coming to look on education as a social process, with the schools performing specialized labors in conditioning and directing this social process.

To make the new conception clear, let one visualize on the one hand the adult generation, living its life, performing its labors in the diversified fields where man's responsibilities and experiences lie, and thus realizing the ends of his existence. On the other hand, let one visualize the juvenile generation, intermingled within the interstices of the adult generation. This juvenile generation as it grows up must gradually learn to perform with competence the innumerable activities which make up adult life. It learns by looking on, by unconscious imitation, by participation, or by performing the activities for themselves. The younger generation takes on the language of the adult generation mainly by participation in the language life of the community. The schools only provide certain auxiliary assistance, particularly on the side of the written and printed language forms. It is language as a social process in the community life which provides most of the education. In the same way, the younger generation takes over the adult attitudes, valuations, and appreciations simply by living within a social atmosphere provided by the adult world. The schools may assist somewhat in rationalizing these matters, in encouraging the better, and in discouraging and inhibiting the worse. But, on the whole, the school is merely

assisting in providing the conditions under which the normal social process operates.

These rather obvious illustrations are typical of everything. Whether it be citizenship, recreation, health activities, home occupations, or what not, it is by the younger generation's performing the activities under normal conditions that there is developed within its members those abilities and habits which are needed. The school has much to do in providing the conditions of normal experience, in advising, in giving information, in providing the conditions of securing information, in supervision, and in coöperation with the parents in getting the activities properly performed. The school does not perform the fundamental educational process. It merely assists in conditioning that process.

In the transition from the old to the new, there are numerous obstacles:

1. Teachers grew up in schools where the older conception was dominant. They have been trained for work in schools of that type. And their habits have been formed by work in those schools. Our huge accumulations of educational tradition all relate to the older academic conception and practices.

2. The members of the community grew up within schools of the older type. They are unable to see education as anything other than schooling of the usual sort. They are unable and therefore unwilling to provide the social sanctions and the moral and financial support for a type of education that is not primarily bookish and academic. They are as yet unable to see education as a social process. And progress cannot go far except as it receives the community's sanction.

3. A third obstacle is the crystallized educational machinery. Buildings, classrooms, textbooks, equipment, all presuppose the older academic education. Then there are the standards and regulations, as for example those of the North Central Association relative to subjects, constants, electives, units, credits, and all the mechanism of administering subjects. Most of this mechanism is designed for the use of the older academic type of secondary education. Much of it is quite unsuitable to a functional type of education. And yet it is that which exists which must be used until it can be changed. In the nature of the case this can be accomplished relatively slowly.

4. There is a general inability on the part of almost everybody concerned to see education clearly and definitely as specific preparation for performing the diverse activities which actually make up the individual and community life. There is a universal haziness of thought as to what the specific objectives of education are, and of the commonsense processes which are to be employed in arriving at functional objectives.

It is the presence of obstacles to progress of this character which lays the large burden of professional responsibilities upon the leaders of education, particularly superintendents and principals of schools. In the operation of a school system or of a single building there is much labor of a routine character to be performed. This is professional work of the simpler type which can in the main be delegated to routine

workers. Meeting the obstacles which we have just enumerated is, on the other hand, a task which demands the widest professional vision and understanding and the most complex and difficult professional labors.

Along with the superintendent, the principals of the several schools, high schools among the rest, will take the lead in overcoming these various obstacles. Their first responsibility, naturally, is to develop a clear and detailed understanding of that functional education toward which we are moving, its objectives, its procedures, and the conditions necessary for its operation.

Principals will take the lead in assisting teachers to an understanding of functional objectives and procedures. They will make clear to the members of the different high school departments the goals toward which present developments in those departments appear to be moving. They will assist each department to discover their objectives in terms of human life; and also those common-sense life-processes which are fundamental in achieving those objectives.

In thus taking the lead with the several departments, the principals will not go beyond that degree of generality which corresponds to their position within the organization. They must leave to the several departments the details of any program. For example, in the much-needed reorganization of high school chemistry, the principal will see that the teachers of chemistry are well informed as to the functions which chemistry should play in the general affairs of everyday life; and also the ways in which it is to be handled by the department in order to accomplish these results. But for formulating the specifics of the program, he will ask the teachers of chemistry to take the initiative and draw up the quite particularized objectives and procedures. It is the teachers, therefore, who actually formulate the detailed curriculum in this field. The principal is responsible for a careful examination of that detailed curriculum to see that it conforms with the more general objectives and procedures which appear to him to be appropriate for the department. He will then approve or disapprove of the recommendations of the department according as they conform or fail to conform with the more general plans and policies. This plan of work leaves the ultimate responsibility with the principal,—so far as the ultimate decision is to be made by anyone within the building. But, at the same time, it not only leaves the initiative for the details, but places responsibility for these details upon the teachers. It is the performance of labors of different degrees of generality by officials of different degrees of generality. Herein we find the method of a responsible and unified democracy. Both principals and teachers perform parts according to the degree of generality of their positions within the organization.

It is frequently taken for granted that responsibility for the more general plans and policies rests with the superintendent alone, and that the high school principal is largely a director of routine and professionally mainly but an intermediary between superintendent and teachers. As a matter of fact the relation between principal and superintendent is probably very closely analogous to the relation between teacher and principal. For any given building, it is the function probably of

the principal to take the initiative as to the things that should be going on within that building. He is in the strategic position of providing leadership to the teachers and departments in the formulation of the detailed plans. But his plans and policies will be reviewed by the superintendent by way of seeing that they are in conformity with the more general plans and policies of the school system as a whole. There is much reason to think that each building within a school system under its principal should be relatively autonomous in working out its plans and its labors so long as these are in conformity with necessarily general and therefore sufficiently flexible plans and policies of the general organization.

If these things are true then the principal is not mere routine intermediary. He is a relatively autonomous professional leader of his group.

The obstacle presented by community attitudes lays another large responsibility upon the principal. More directly than either superintendent or teachers he is in immediate contact with the patrons of his school. He occupies the most strategic position for assisting the community to rid itself of a large number of academic traditions and preconceptions and to take on the common-sense functional view of education as a social process. In his personal contacts with parents as they consider the training of their sons and daughters, in meetings of the parents' association, and other educational groups or gatherings, the principal has a more or less continuous opportunity to take the lead in developing a modernized community vision and understanding of education.

The principal is responsible for assisting in removing the obstacle to progress presented by the presence of general uniform standards and regulations equally applicable to all schools whatever be their special situation and which take away from principals and teachers that autonomy of management which, it appears, is rightfully theirs. This does not mean that we should not have centralized leadership in state department, state university, and North Central Association. It means rather such a redistribution of functions as to bring each portion of the larger organization to operate according to its position within the system, and not to interfere with such local autonomy as ought to exist.

There is great division of opinion, and therefore professional uncertainty, as to what constitutes the rightful division of functions between the local and the central authorities. There appears to be a general principle of administration which reads about thus: Responsibility for initiating, planning, and directing the details of a piece of work rests upon those who are immediately responsible for doing the work; but such initiative must be in harmony with the general and flexible plans and policies of those in general authority. On the other hand, those in more central position are responsible for formulating and making clear the broadly comprehensive plans and policies which are to be adapted to the multitude of specific and differing situations; and to see that the locally drawn plans are in conformity with these general and therefore flexible ones.

Innumerable illustrations can be drawn from practical administration to prove the general recognition of this principle. It appears, however, not to be employed sufficiently consciously in the management of innumerable matters. Much regulation of details is taken over by the central officials which ought to be left to the principals and teachers. On the other hand, much of the determination of general plans and policies is not sufficiently accomplished by the central authorities and passed on to the local schools for their guidance.

Within the local school, the principal, it seems, bears responsibility for voicing the rights of the local school to autonomy in organizing and carrying on for the community the particular type of education which will best serve the needs of the community. The easy thing to do is simply to accept uniform centrally-promulgated plans and standards, and mechanically administer them without thought as to their serviceability to the community. It is the doing of just that thing which has resulted in an enormous amount of educational malpractice.

If principals are to perform these various labors, it is clear that, like everybody else in this transitional age, from kindergarten to university, they are called upon to undertake a more or less extended preparation for the task. While such preparation may in some degree be accomplished thru summer school courses, extension lectures, professional conferences, etc., yet in the main it seems the preparation must be derived from doing the work itself. One will learn how to do the job by doing it in the best way that one can, and thru a gradual improvement of the procedures. Thus he will best prepare himself by doing such things as the following:

1. He will observe at first hand the actual educational needs of the community life. He will see *for himself* those human abilities which ought to be functioning within the community life and which therefore should be the objectives of education.

2. He will see for himself which of these abilities can be the objectives of each of the several departments of the school. Specifically, for example with the science, with the broad range of human abilities before him which are to be developed, he will find those which ought to be aimed at by the department of science. In the same way, he will find those which ought to be aimed at by the departments of English, mathematics, history, and all of the others.

3. He will see that each department works out its more specific objectives in terms of community needs.

4. He will see that each department actually holds to the objectives in the conduct of its work. This is a fairly large responsibility just at present because of the tendency of a department to teach academic subject-matter without any reference to objectives,—beyond merely academic knowledge of the subject-matter.

5. He will for himself work out the *general* lines of educational procedure which are necessary for achieving the ability objectives.

6. He will see that each department works out functional procedures which are appropriate to the attainment of the functional ob-

jectives; and that they hold to such procedures in the conduct of the training.

7. He will for himself arrive at conclusions as to the means of general type which are to be employed in achieving the objectives,—the books, supplies, apparatus, equipment, building facilities and arrangements, etc. He will have the several departments, then, work out the details of these matters. Thru his responsibility for approval or veto, he will get this done in a responsible manner.

8. In the work itself he will thus provide for the major training of teachers in service for their portion of the work.

9. He will keep a continuous oversight over all the details of the work, by way of seeing that the work of the teachers is always in conformity with the more general plans and policies.

Variation in High School Cost of Instruction: Causes and Suggestions for Improvement

BENJAMIN J. BURRIS

JUST as skill in the art of teaching is fundamental for the successful teacher, scientific management is fundamental for successful school administration. The successful school administrator of today is giving serious consideration to the discovery of any and all discrepancies that may exist in his school system. By the use of the most scientific means thus far known, he is raising problems for intelligent consideration and wise adjustment. He is using such standards as have been determined scientifically in the organization and control of the school. He is aware that the school of today should use such standards of efficiency as are now well incorporated in successful industrial and commercial pursuits. He knows it is one thing to be devoted to one's calling, but quite another to be armed with such knowledge and facts as will insure success in it.

One question that looms large in the field of education today is that of securing adequate funds with which to meet the ever-growing demands on the school. In Indiana the problem is more serious than is generally realized. The common report from cities is that the legalized sources of revenue for schools are all but drained to keep a somewhat stunted program in progress. The time is fast approaching when the school administrator, in order to secure adequate finances for school support, must convince practical business men that his system is efficiently organized and administered, and that funds are being used economically.

With this brief foreword, let us take up a discussion of the topic assigned: "Variation in High School Cost of Instruction: Causes and Suggestions for Improvement".

In the beginning, let us consider the rising school costs in Indiana and the reasons therefor. These reasons are: First, a rapid increase in average daily attendance in the schools of the United States, amounting to 40.89 per cent in the last ten years, while the increase in general population was only 14.66 per cent. The per cent of increase in attendance in high schools was more marked than in the grades, and the high school per pupil cost is approximately double the per pupil cost in the grades. Indiana furnished 16,428,407 more school days to elementary grade pupils in 1923 than in 1914, or an increase of 24.01 per cent. It furnished 10,098,119 more school days for high school pupils in 1923 than in 1914, or an increase of 120.66 per cent. These increases result from the marked increase in school enrollment and from the increased length of the school term.

The second reason for increase in school costs is depreciation in the purchasing power of the dollar. So marked has this been that in 1923 it required $173 to buy articles for the school that could have been purchased in 1913 for $100. The depreciation in the buying power of the dollar was the principal factor necessitating an increase in teachers' salaries.

A third cause is a rather marked increase in the length of the school term in many school corporations, especially in rural communities.

A fourth is the construction of new buildings following the war period. In Indiana the cost of new buildings erected in 1922-23 amounted to $9,818,395.59.

A fifth reason is the offering of more electives and a greater variety in school studies.

The foregoing are the principal factors underlying the increase in school costs. There is another, however, which should be mentioned in this connection. During the last ten years the public has recognized the necessity of higher educational requirements for the average citizen, the need of greater facilities for specialized training, and the need of a more enriched curriculum to meet the needs of the rapidly increasing enrollment in the secondary schools. This increased enrollment carries with it a wider diversification of pupil ability and interest. In short, the school as an institution has been called upon to take over added duties and functions and meet higher standards demanded by the public.

In a recent report of the Educational Finance Inquiry Commission, relating to public school costs in cities of Illinois, Volume XII, page 51, it is reported that about 80 per cent of the expenses of a four-year regular high school is employed in providing instruction. The term "instruction", as used in the report, includes more than teaching cost. It includes also supervision and instructional supplies. The important point is that instruction is a major cost item and one deserving first consideration in a search for discrepancies and unwarranted costs.

FACTORS THAT DETERMINE INSTRUCTIONAL COSTS

What are the principal factors that determine cost of instruction? They are, first, the number of pupils per teacher, which includes the number and size of classes; and, second, salaries of teachers. In an effort to obtain reliable data bearing on these and less important factors, the writer consulted the annual reports of all commissioned high schools on file in the office of the state department of public instruction for the school year 1922-23, after the reports had been grouped on the basis of enrollment in the several schools. The schools were divided into five groups. Group I included all commissioned high schools having an enrollment of from 1 to 50; Group II, having an enrollment of 51 to 100; Group III, having an enrollment of 101 to 200; Group IV, having an enrollment of 201 to 500; and Group V, having an enrollment of 501 or more. In the examination of these reports the writer found that there were 133 Group I schools with a total enrollment of 5,268, and an average enrollment of 39.6; 301 Group II schools with a total enroll-

ment of 21,901, and an average enrollment of 72.7; 123 Group III schools with a total enrollment of 16,528, and an average enrollment of 134.3; 52 Group IV schools with a total enrollment of 15,997, and an average enrollment of 307.6; and 32 Group V schools with a total enrollment of 27,441, and an average enrollment of 857.5.

SIZE OF CLASSES

Time will not admit of a detailed report on the size of classes in all subjects in the five school groups. Attention is called to a few outstanding facts only. In Group I schools, the number of pupils in a class in English ranged between 1 and 29, the median being 11.4. In Group II schools the range in the number of pupils in a class in English was from 2 to 34, the median being 18.4. In Group III schools, the median number of pupils in a class was 22.5; in Group IV schools, 23.9; and in Group V schools, 24.8. In general history, the median numbers of pupils in a class in Groups I, II, III, IV, and V schools were 12.1, 18.6, 23.7, 25.3, and 24.7, respectively. The conclusion which the data seem to warrant is that where the enrollment falls below that determined for Group III schools, below 100, the number of pupils enrolled in the school is an important factor in determining size of classes.

Dr. Monroe, in his study of the cost of instruction in the Kansas high schools, thru the use of the coefficients of correlation, shows that the size of classes is the major factor in determining instructional costs. This arises from the fact that salaries ordinarily do not vary more than 20 to 25 per cent from the median, while the size of classes often varies 50 per cent. Since the size of classes is the most important factor in determining the teacher load and the cost of instruction is a chief cost factor, the relationship of the number enrolled in a high school to the instructional cost is at once apparent.

In Dr. Wheat's study of West Virginia schools, as reported in *School Review*, Volume XXVI, page 446, he shows that in high schools where the enrollment ranges from 50 to 75, the median size of classes is 15, and the median cost per 1,000 student-hours is $74; that where the range of enrollment is from 76 to 91, the median size of classes is 20, and the median cost per 1,000 student-hours is $61; that where the range of enrollment is from 93 to 118, the median size of classes is 23, and the median cost per 1,000 student-hours is $52. In schools having an enrollment greater than 118, the median size of classes increases and the median cost of instruction decreases. From his study it may be concluded that enrollment, after it reaches 90 to 100, ceases to be an important factor in determining the size of classes and, therefore, the cost of instruction.

In a recent report on the cost and support of secondary schools in the state of New York, this statement is made: "After a school has reached the size of about 75 pupils, the variations in per pupil costs are not large."

It will be seen that the small high school presents an important problem from the standpoint of instructional costs. In this connection

it should be said that on the point of standard size classes, there is lack of reliable data. The study of Dr. H. G. Childs, "Third Conference on Educational Measurements", *Bulletin of the Extension Division*, Indiana University, and the study of Dr. Franklin Bobbitt, as reported in *School Review*, Volume XXIII, throw much light on this question. The recent study of the North Central Association, which limited the size of high school classes to 30 pupils, has been called into question. The relationship of the size of classes to teaching efficiency is still an open question. The study of this question, now being promoted by the Research Department of Ohio State University, offers promise of needed light on this problem. It should be said here, also that while the number of pupils which a teacher may instruct is determined largely by the total enrollment in the school, yet the data relating to the Indiana high schools show a wide variation in the number of pupils instructed by one teacher even in schools having the same enrollment. This is due largely to poor school organization and to lack in wise administrative leadership.

In Dr. Monroe's study of the Kansas high schools, it appears that in 15 schools, each having an enrollment of 40 pupils, there was a variation in the number of students instructed by one teacher which ranged from 60 to 125. Moreover, this was in English, a subject required of all students. Monroe's study shows clearly that unwarranted instructional costs can be avoided if the principal or superintendent can organize the school so that classes may be of moderate size. A teacher can teach easily 100 students in most subjects, and where it can be avoided, it is poor practice to organize a school so that a teacher may have but 70, 80, or 90 pupils.

From 90 to 110 pupil-hours daily in the principal school subjects is not a heavy teaching load, but when a teacher is assigned 47.2 or 68.7 pupil-hours daily, the medians in Groups I and II schools in Indiana, the community is not getting the service the teacher should render. When the teacher is not assigned the average teaching load, the community is obliged to pay more than it should for education. When this occurs the school is being operated on an inefficient basis. Either the community is too small to insure an enrollment that will bring instructional costs within reasonable range of the average or there is administrative maladjustment in the school or both. In any event, a school administrator who will diagnose the trouble and announce the remedy is making the first step toward improvement.

SALARIES OF TEACHERS

A second factor in determining instructional cost is teachers' salaries. This item at first thought would seem to be the most important one, but this view is not borne out by the facts. Strange as it may seem, the teacher's salary is not as influential as other factors in determining instructional costs. This statement is well supported by the studies of Dr. Wheat and Dr. Monroe. In the former study, it is shown that while 14 high schools were paying English teachers salaries

ranging between $700 and $725, yet there was a variation in cost of English instruction ranging from $30 to $90 per 1,000 student-hours. In like manner, the salaries of English teachers in 13 other high schools ranged between $675 and $900, yet the schools were giving English instruction in the same amount as that given by the 14 schools at a cost of from $40 to $50.

In Monroe's study, 26 cities are reported as paying 2 cents per unit of instruction. Two of these cities were paying a monthly salary of $60; 5, $65; 7, $70; 5, $75; 4, $80; and in the remaining 3, the monthly salaries were $85, $90, and $105, respectively. In another city, in which the instruction was cheapest—1 cent per unit—the monthly salary was $75. In another city, in which the salary was $50 per month, the unit cost of instruction was 8 cents. From the foregoing it seems worth while to quote the principal conclusions of Harry G. Wheat in his study of high school costs in the schools of West Virginia, as reported in *School Review*, Volume XXVI, page 450. His conclusions read:

"1. The length of the recitation period is a negligible factor in determining the cost of instruction.

"2. The actual salary paid to teachers is no reliable index of the price which a community is paying for instruction.

"3. The cost per class is a more reliable index of the cost of instruction than is the salary of teachers, although a low cost per class does not necessarily mean that a community is getting instruction at a low rate, and a high cost per class does not necessarily mean that a community is paying a high price for instruction.

"4. Of the factors which we have considered the average size of classes is the most important factor which enters into a determination of the cost of instruction. Small size of classes may be taken invariably to indicate that a community is paying a high price for instruction; conversely, large size classes indicate that a community is buying instruction at low rates.

"5. The total enrollment of the school, when it is less than 90 to 100, is an important factor in determining the average size of classes and the cost of instruction; when the enrollment exceeds 90 to 100, it becomes a relatively unimportant factor."

The data taken from the Indiana high school reports show that the median salaries of teachers in school Groups I, II, III, IV, and V are $138.48, $150.87, $144.33, $160.41, and $184.24, respectively. The highest salary is paid to teachers in Group V schools, the next highest in Group IV schools, and the next highest in Group II schools. The lowest is found in Group I schools. While teachers in Group I schools receive the lowest salary, the median unit cost of instruction in Group I schools is the highest, being 14.3 cents as against 9.7 cents in Group II schools and 8.5 cents in Group III schools. Altho salaries of teachers are higher in Group II schools as compared with those in Group I schools, the unit cost of instruction in Group I schools is 49 per cent greater. The data relating to Indiana high schools show that the median salary of teachers in Group V schools is considerably higher

than the median salary in Group II schools, yet the median instructional cost in both school groups is 9.6 cents. The salaries of teachers in Group IV schools are higher than in Group II schools, yet the median instructional cost in the former is less than in the latter. It is clear that the schools which pay the lowest salaries are not getting instruction at the lowest cost and that schools which are paying the high salaries are not paying the highest cost for instruction. The conclusion which the data warrant is that salaries have a direct relation to instructional costs, but being far less variable than size of classes, they have far less influence on cost than do the latter. The salary paid to the teacher, therefore, is not a very influential factor in determining the unit cost of instruction.

There are other important factors bearing on instructional costs, but time will not admit of their discussion. Let me pause to point out that the enrichment of the curriculum which necessitates a larger number of pupil groupings and departmental organizations, followed by closer supervisory services, call for a rather marked increase in cost. In Volume XII, page 58, of the *Educational Finance Inquiry Commission*, just published, it will be noted that English is being taught in the Peoria (Illinois) high schools at a per pupil cost of $18.47, while the per pupil cost of manual arts courses is $62.39. It will also be observed that in each of the high school units included in this study there are on a uniform basis of comparison some departments that cost more than twice as much per pupil as other courses. It is such facts as these that make necessary a close and searching study of the relative value of different courses to determine if the community can afford to maintain them.

STATISTICS FROM INDIANA HIGH SCHOOLS AND THEIR INTERPRETATIONS

The attempt, thus far, has been, first, to call attention briefly to the rising tide in the cost of education, and point out the principal reasons therefor; second, to point out the principal factors that determine instructional cost and show the effect of their application in high schools of different size. Let me now give some statistics and interpretations based on the study of the Indiana high school reports. The median instructional costs in the five school groups in the state, taking them in ascending order, are 14.3, 9.7, 8.5, 9, and 9.6, the lowest being in Group III schools. The unit of instruction used in this study is one single class period for one student. The data show that one teacher in Group I schools is giving instruction at a per pupil hour cost of 4 cents, two teachers in the same group are giving it for 5 cents, nine teachers in the same group are giving it for 6 cents, while 122 teachers in Group II schools, 135 in Group III schools, 97 in Group IV schools, and 99 in Group V schools are giving instruction at the same rate, 6 cents. While there are 200 per cent more teachers in Group II schools than in Group I schools, yet the number of teachers in Group II schools giving instruction at a per pupil hour cost of 6

cents exceeds by 1255 per cent the number of teachers in Group I schools which pays the same rate for instruction. The data show that the median numbers of pupils in Latin in school Groups I, II, III, IV, and V are 10, 15.4, 18.1, 21.2 and 22, respectively. It also shows the median distribution of teachers by school groups on the basis of pupil-hour load to be 47.2, 68.7, 86.6, 95.8, and 103, respectively. It will be seen that the smallest number of pupils in a class in Latin is in Group I schools, the next smallest in Group II schools, etc., and that the smallest pupil-hour load is in Group I schools, the next smallest in Group II schools, etc., and that the highest per pupil-hour cost is in Group I schools and the next highest in Group II schools. A study of the data shows a wide difference in per pupil-hour cost per teacher when the school groups are considered separately. For example, the range in Group II schools is from 2 to 45 cents and more per pupil-hour. It cannot be said that this wide variation in per pupil hour cost per teacher is due to quality of instruction in the different school groups. While, no doubt, there is some variation in the quality of instruction, yet it is insignificant as a factor in making this difference in cost.

It will be observed that the small high school presents an important problem from the standpoint of instructional cost. The problem of maintaining instructional cost as low as is consistent with the best service is basic to the best interests of the school. This problem is one that demands most careful study. The financial problem of the school is fundamental. It is not so much a question of saving a dollar as it is a question of spending it wisely. An expensive school may or may not be an efficient school. A cheap school, in all probability, will not be an efficient school. The problem that faces every school officer is that of providing adequate school funds to meet the rapid expansion of the school, and, like industry of today, to organize and operate it in accord with the latest and wisest administrative thought. From the data taken from the Indiana high school reports many examples could be cited showing an utter disregard for the best practice in school organization and administration. For example, the data show that some townships having improved highways are maintaining two and three small high schools. Two townships in one county are each maintaining three high schools. The total high school enrollment in the three schools of each township does not exceed 150. In each township 12 full-time high school teachers are employed, four for each school. The average number of pupils per teacher is slightly over 12.

One county having 450 square miles of land area and a population of 69,000 has 8 commissioned high schools. Another county having 447 square miles of land area and a population of 26,500 has 18 commissioned high schools. In each of these counties conditions from every standpoint are favorable to transporting pupils.

Another county employs 55 high school teachers. The average number of high school pupils per teacher in this county is 10.5. One township in this county has two high schools, one of which has an enrollment of 15 and the other 22. Three high school teachers are employed in each school. This county has a population of 19,500 and

land area amounting to 409 square miles. Yet it has 12 high schools. Another township in this county has two high schools, one with an enrollment of 10 and another with an enrollment of 66. The schools are about two and one-half miles apart.

In another county there are two high schools four miles apart and on an improved highway and a railroad. One of these schools has an enrollment of 43 and the other 28. Each employs three teachers. The school having an enrollment of 28 has 1 class with 2 pupils, 1 with 3, 1 with four, and 2 with 5 pupils. The cost of instruction alone in this school amounts to $145 per pupil per year. In another county a rural high school with an enrollment of 43 pupils offers courses in both Latin and French. Another high school, in another county, having an enrollment of 50, in like manner offers courses in Latin and French.

In Group I schools may be found courses in stenography, bookkeeping, and typewriting.

These are some of the examples that seem to point to the need for better methods of organization and administration. Other cases are not rare. However, many examples of excellent organization could be cited.

The need for better organization and administration of the small high schools is outstanding in scope and importance. It is clear that a very important factor in determining instructional cost is the ability of the trustee, or the principal, or the superintendent, or all, in organizing the school.

The small high school offers particular and important problems of organization and control. This fact stands out with great prominence.

CONCLUSIONS AND RECOMMENDATIONS

From the data at hand the following conclusions are drawn:

1. Of the factors which determine the cost of instruction the per pupil-hour load of a teacher is the most important one.

2. Instruction in very small high schools is necessarily costly, as the number of pupils enrolled makes impossible the formation of classes of efficient size.

3. Where the enrollment of the school is less than the average in Group III schools—134—the likelihood of undersized classes is more marked, depending upon the size of the enrollment, and the per pupil-hour teaching load will tend toward the lowest limit in Group I schools —15 or less—as the enrollment becomes smaller.

4. The ability of the school administrator to organize his school so that the teacher will have a normal pupil-hour load is fundamental in bringing about efficiency and economy of administration.

As a means of improvement the following recommendations are made:

1. There is need for the wisest professional and administrative leadership.

2. There is need for the elimination of the small high school, depending upon the condition of roads and the proximity of other high schools.

3. It is important that the range of subjects offered in Group I and Group II schools should be reduced to the minimum essentials.

4. The principle of alternation should be used in certain subjects in all small high schools.

5. The teacher load should not be less than 100 to 125 per pupil-hours daily.

6. In the small high schools special subjects should not be offered each year. They should be offered so that each pupil may have the opportunity during his four-year course to elect at least one credit (½ unit) in each subject required by law in a commissioned high school.

7. The development of an administrative plan of alternation of teachers in special subjects within a county is apparent.

8. The establishment of a budgetary and accounting system that will make possible reliable comparison of costs between schools is an imperative need.

Determinants of Curricula for Small High Schools

JESSE E. ADAMS

THERE is perhaps more being written on the curriculum today than on any other phase of secondary education. Most of the writings, however, deal with the curriculum in general and supposedly for all types of schools. Very rarely is an article written pertaining specifically to the curriculum for the small high school. Yet the *small* high school in a sense presents the most challenging problems of all the high schools.

In the first place, there are so many of them. Out of the 765 public high schools in the state of New York,[1] 609 are classed as rural high schools located in centers of 4,500 population or less; in Virginia,[2] nearly four-fifths of all the high schools have under 100 enrollment each; in Indiana,[3] three-fourths of all the high schools enroll less than 100 each. Thus it seems that the small high school contributes a large majority of all the high schools in all the states.

But not only is the actual number of small high schools a challenging probem, but how to give the needed experiences to high school pupils with such small enrollments and small classes and yet keep within the bounds of *possible* financial obligations is still more challenging.

It is the cost element largely that makes the whole problem of the rural school acute. Thus as soon as the results of our state-wide survey in Indiana were published it was very easily seen that of the many problems awaiting solution, none was more acute and demanding than that of the curriculum for the small high schools. Consequently this study was made with the hope that it might be possible thereby to throw some light on this perplexing problem. The writer has made an attempt to attack the problem directly, and as a result of his investigations and readings, to offer suggestions whereby he believes it is possible, not only to bring the needed experiences within the life of the rural high school pupil but also to present these needed experiences more systematically, psychologically, efficiently, and economically. The following is in brief the method of procedure in securing the data:

The survey was largely made by means of four types of questionnaires which were prepared and mailed to the principals of the seven township high schools in Johnson County. The principals were requested to have the high school pupils fill out the questionnaire, marked "for pupil"; the high school teacher the questionnaire, marked "for

[1] *Rural School Survey of New York State*, 1922. Vol. VII, p. 14.
[2] *Virginia Public Schools, Educational Survey Series, Part I.*
[3] *Public Education in Indiana*, 1920, p. 99.

teacher"; and the principal was requested to fill out the other two. One of the latter dealt with the personal data, of duties and responsibilities of the principal. The other dealt with facts concerning his high school. All told, 405 questionnaires were tabulated. Of this number, 366 were of the first type, 25 of the second type, 7 of the third type, and 7 of the fourth type. It may be claimed that for much of the data the number of cases is too small to be reliable, but the writer has supplemented his results in very many cases by other additional investigations and finds that the additional evidence does not change the results materially. For example the holding power of these seven high schools, that is the per cent the senior enrollment is of the freshman enrollment, is 66. To see whether this was typical of other schools of similar size in Indiana, the writer took every eighth one of all of the schools in the state ranging from 50 to 99 in enrollment and found the holding power for all to be 60 per cent. Thus in this respect our seven schools seem to be quite typical of other schools in Indiana of this size. Also an investigation of the records at the state department shows that these seven high schools in Johnson County are quite similar to other schools of the same size in this state as to: (1) program of studies offered; (2) kinds of curricula offered; (3) number of teachers and salary of teachers.

Again we find our data relative to how the principal spends his time and what his qualifications and duties are to be in quite close agreement with an investigation made in 1922 by John Raymond Shannon[4] in his master's thesis, *The Township High School Principals of Indiana*, wherein he made a study of most of the township high school principals of the state.

Thus it appears that there is such close similarity among small rural high schools of Indiana with respect to enrollments, training of teachers and principals, curriculum offerings with their administratives and supervisory problems, and pupil destination that it does not seem necessary to deal with a large number of high schools to get a fair index of the situation. In other words the evidence tends to show that a similar investigation made in any one of a majority of the counties of Indiana dealing with this type of high school would not change the findings materially.

Besides the data revealed by the questionnaire, the suggestions made in this thesis are based on the opinions of specialists in the field of curriculum making, various state courses of study, readings, and also on the writer's personal contact with and experience in this type of school which amounted in all to about fifteen years either as high school principal, high school teacher, or county superintendent of schools.

Too many times in the past, curriculum-makers have let the factor of expert opinion reign supreme in deciding what should make up the program of studies. This expert opinion has come from authorities for each particular subject, and other factors equally important have been given a minor or negligible place as determinants. In contradistinction to the above view, it is our belief that there are other factors

[4] Shannon, John Raymond. *The Township High School Principals of Indiana.* A Master's thesis at Indiana University, 1922.

which should be considered in curriculum-making procedure. Of these let us call attention to four: (1) the principal or supervisor; (2) the child; (3) the teacher; (4) the cost element or the financial limitation of the community.

Of course the child is the basic factor, and the curriculum-maker who suggests the curriculum without regard to the interests, tastes, aptitudes, and destinies of the pupils is almost certain to be shipwrecked in his progessive march. Until we learn that a curriculum made up by specialists in the subject-matter, and without the child specialists, cannot succeed, we can never hope to make progress.

A similar idea to the above has been suggested by Mr. Rugg[5] in his article, "What Shall Constitute the Procedure of National Committees?" Mr. Rugg says that two recent publications have exemplified two important types of procedure in curriculum-making:

1. *The Psychology of Algebra* by Thorndike and others.
2. *The Reorganization of Mathematics in Secondary Education*, prepared by a committee of mathematics teachers representing the Mathematical Association of America.

The former is the method of expert analysis of social and psychological needs, while the latter is the method of expert teaching opinion. It perhaps needs no argument to convince the unbiased mind that both types of experts are needed. As Rugg says, "The tasks required of each group demand specialized interests, training, and experience. Neither group as educational workers are now constituted is fitted to do the work of the other. Both are necessary for the proper reorganization of mathematics; both are indispensable in the proper reorganization of any department of school work."

Quoting further from Rugg in the same article we find the following, "To the present time courses of study have been made by specialists in the subject-matter or by teachers dominated by the former's point of view. The group of specialists in the subject-matter have been prone to criticize the educationists as pushing in where they do not know much about it . . . as a matter of fact it is the specialist in the subject-matter who is out of his field, when he undertakes to do the work underlying the making of a curriculum, not the students of the science of education."

In our study we have first endeavored to learn something of the aspirations, interests, and dislikes of the pupils for whom the curriculum is made; secondly, we have studied the high school principal and his qualifications and duties, in order to learn how well prepared he is for supervising the curriculum; in the third place we have dealt with the high school teacher who, as has been said, must, in the last analysis, put the curriculum across to the pupils; and in the fourth place we have dealt with excessive costs of certain phases of high school instruction.

In any discussion of a curriculum it should never be forgotten that the only purpose of a high school curriculum or any other kind is to change the lives of boys and girls for whom the curriculum is

[5] Rugg, Harold. *Journal of Educational Psychology*. January, 1924.

intended. Buildings, grounds, equipment, teachers, and supervisors are only the means to be utilized for the purpose of making more effective the operation of the curriculum in the lives of boys and girls. When anyone tries to decide what experiences shall be contained in the curriculum, he should never lose sight of the fact that these experiences must be determined by the needs of boys and girls. They should be not only those experiences that will *aid* in making young lives more useful and effective, but they should be those experiences that are of the *most* aid. Hence the necessity of realizing the first determinant, namely, the high school pupil, his hopes, aspirations, likes, and dislikes. Let us turn then to some of the factors involved in a study of this determinant in high school curriculum-making. The data gathered here are from the pupils enrolled in the seven township high schools of Johnson County, Ind. The enrollments of these schools are as follows: 52, 45, 47, 41, 62, 45, and 90, a total enrollment of 372.

1. Place of birth of the high school pupil.

Ninety-one per cent of the 366 answering this question were born and reared in the rural districts. This fact would certainly have a distinct bearing upon the content of the curriculum if one could show scientifically that these children would remain to any considerable extent in the community where they are born and reared or if it could be proved that they would remove to a similar community, one with similar interests. In this connection it is interesting to notice the words of Gillette: "Ninety or ninety-five per cent of the population will either remain in the community where they are born and reared, or will remove to a similar community, one with similar interests. The dominant pursuit of a region may determine what the pupils should be trained for without doing an injustice to any."[6]

A similar statement relative to the elementary curriculum was made by A. P. Bourland, secretary of the Conference for Education in the South. "When we determine these two things, what the farmer must know and the skill he must have, we will get the elements to be worked into the school. . . . It is estimated that 95 per cent of the farmer's children follow farming in some form. We take it for granted that the school will work for this 95 per cent rather than for the five per cent that go into other callings."[7]

While the above facts sound plausible, the high school curriculum-maker may well hesitate to endorse them for two reasons:

(1) Even if it were true that 95 per cent of the people born in a community will continue there or in a similar community, it does not follow that 95 per cent of the high school pupils will adhere to this proposition. High school pupils are a select group and in all probability the 5 per cent which is conceded to leave the community is from the high school group.

(2) Data collected in this study dispute the idea that even approximately 95 per cent of the boys and girls in the rural high schools will remain in the rural communities.

[6] Gillette, J. M. *Constructive Rural Sociology.* P. 328.

[7] *Rural Life Bulletin No. I,* Winthrop College, Rock Hill, S.C. P. 17.

2. What the high school pupil expects to do immediately after graduation.

The tabulations to this question show that 54.9 per cent expect to go to college; 16.4 per cent to a business college; 9 per cent will remain on the farm, and 8.3 per cent are undecided. The remaining 11 per cent represent 10 different occupations.

The high per cent headed for college is not confined to any one class since 48.9 per cent of the sophomores, 65.1 per cent of the freshmen, 52 per cent of the juniors, and 52.9 per cent of the seniors seem to be planning such a career.

3. What the high school pupil expects to do ultimately.

Nineteen per cent plan to go to the farm, 32 per cent are going to teach, 14 per cent are undecided, 7 per cent will be bookkeepers, 7 per cent will go into engineering, 5 per cent will be stenographers, 4 per cent will be nurses, and a like number hope to be mechanics.

When immediate and ultimate aims are compared we note some interesting facts. Ultimately twice as many expect to go on the farm as expect to be there immediately after graduation, the figures showing 18.9 per cent ultimately and 9 per cent immediately. This would indicate that a number of those who report that their intention is to go to college immediately must have had in mind some agricultural college. While 16.4 per cent plan to enter business college immediately, only 12.2 per cent plan to do bookkeeping or stenographic work. There are 54.9 per cent who plan to go to college immediately, but the total of those who plan to teach, enter engineering and the medical profession amounts to only 41 per cent. Of course many of these may enter other professions than those listed.

Whether immediate or ultimate plans of the high school pupil be considered, there doesn't seem to be any strong evidence as far as the data show for making the high school curriculum one merely for future farmers. In other words, if we would throw those having immediate and ultimate plans into four classes, they would be somewhat as follows:

(1) Those entering the professions who will need the college preparatory curriculum, which include 41 to 54 per cent.

(2) Those entering positions where a business course is needed, including 19.2 per cent.

(3) Those who contemplate farming, including 18.9 per cent.

(4) Others including the undecided include 21 per cent.

4. What high school pupils who have graduated in the past three years are now doing.

While it is interesting and in my opinion well worth while to the curriculum-maker to know what the high school pupils plan to do immediately after graduating from high school and also what they plan to do ultimately, probably neither of these count so much as what they actually do do after graduation. For this reason the high school principals were asked to find out what the pupils who had graduated in the past three years were now doing, and also what those who did not graduate are now doing. The number reported as not graduating was

generally small due to the fact that it was almost impossible to get accurate data on all of them. The difficulty of securing accurate data on all made some of the principals hesitate to report on any not graduated. While more cases in this class might have made us more certain of our program, it is probable that to the curriculum-maker who is planning an entire high school program, data of this nature on the graduates will be of greater importance than data on the non-graduates, since it is probable that a greater per cent of the latter than of the former will be enrolled among the unskilled laborers.

The per cent of graduates who are farming is 13.6; teaching 12.4; at college 22.9, thus making 34.9 per cent who would have needed the college preparatory course; married (at home) 12.4 per cent; single (at home) 13.6 per cent. All others taken together comprise only about 26 per cent. The percentage in any one of these cases making up this 26 per cent is so small that it cannot be of much value to the curriculum-maker in the small high school except to convince him of the futility of trying to meet the needs of all.

5. From what occupations do the high school pupils come?

From farm homes there are 82.5 per cent, and the remaining 17 per cent are divided among 22 different occupations. From these data together with those on ultimate and immediate plans, two conclusions of great value to the curriculum-maker might be drawn:

(1) There does not seem to be any marked tendency for high school pupils of the small high school to follow in the steps of their fathers in so far as choosing a vocation is concerned.

(2) Since the pupils show such strong tendency to desert the father's vocation there may be all the more reason why the school should recognize this fact by giving some form of occupational advice. When a high school pupil breaks with his social heritage in the occupational field there are so many new roads that with no guidance his chances to go wrong are very many.

6. The probability of the high school pupil to own and cultivate a farm.

We often hear it said that one of the chief purposes of the rural school is to retain the children on the farm. It was with the intention of finding out some of the results that might follow if we would just say once for all that we expect to so shape our curriculum of the high school that its boys and girls will all be retained on the farm and thus be farmers and farmers' wives that data on this line were compiled.

Now if we could make farmers and farmers' wives out of all the children represented by land-owning families in the communities studied there would be 40.36 acres for each boy or 21.37 acres for each child. But if we are to make farmers and farmers' wives out of all the children in the community we must figure that the children from the non-land-owning families will probably own their share of the land also. Counting on this basis we would have only 26.58 acres for each boy or 13.87 acres for each child in the community. Most of us will admit that 26.58 acres (assuming that all of the girls in the community would marry farmer boys) is entirely too small for one family with our

modern methods of extensive farming. With our rapid output of farm machinery whereby the needed amount of labor is decreased it would seem that there is actually not enough land to need the services of anything like all of our boys and girls living in the rural districts. Besides what would they do with their products if they did all become farmers? Thus the words of Foght[8] seem somewhat questionable. "Give to rural education an increasing agricultural trend, and we shall soon be in a fair way to solve the rural school problem . . . let, then, the rural school of today face its pupils toward township and county high schools with their agricultural instruction, the eventual aim being to prepare them for entrance to the agricultural college or immediately for the practical tasks of the farm."

7. What subjects are these high school pupils now taking?

After the curriculum-maker has found out what the pupils are planning to do it would seem that the next logical step would be to ascertain to what extent their present program of studies are furthering their aims and plans. If we agree that the real business of the school is to help pupils to do the things they are going to do anyway then perhaps the best test of the program of studies is the extent to which it contains the most essential experiences for the child's advancement toward these things. In order to find out some information along this line in the seven township high schools of Johnson County each pupil was asked to give his individual program of studies for the present year. As a result of the tabulations on this question we find 20.8 per cent of the total number of boys are taking some form of agriculture. It will be remembered that 18.9 per cent were planning to remain on the farm. Two per cent are taking dairying, 4 per cent farm mechanics, 4 per cent are taking bookkeeping (it will be remembered that 7 per cent were planning to become bookkeepers), 4.2 per cent are taking typewriting whereas 8 per cent are planning to do stenographic and office work. In hardly any case is the program of studies such that a pupil could take 4 to 6 units of work along any anticipated field unless it be the purely college preparatory group. The following conclusions may easily be deduced from data on the above question:

(1) There are many instances where it seems plain that the pupil's program of studies does not fit into his vocational plans.

(2) The lack of uniformity in the program of studies between high schools is very conspicuous since all of these schools are located in rather close proximity and in the midst of the same agricultural community.

(3) The wide variety of studies offered within the same branch of studies is very questionable for the small high school, e.g. the sciences.

8. Subjects which high school pupils would like to have in the curriculum, which are not now offered.

Nearly one-third of the 343 students answering this question want to take typewriting but cannot get it. This desire seems to be con-

[8] Foght, M. W. *The American Rural School.* P. 206.

fined to no one class, but the percentage gradually increases as the pupil passes thru high school. Nor is the longing for typewriting confined to any one sex since two-thirds as great a number of boys as girls want it.

The next greatest per cent want bookkeeping (19.2 per cent). The 66 pupils wanting a course in bookkeeping are composed of 30 boys and 36 girls. Again the desire and seemingly felt need grows as we pass from the freshmen to the senior class until we find the latter comprising 28.3 per cent of the boys and 28.8 per cent of the girls.

The subject desired by the third highest per cent is shorthand, comprising a total of 12.8 per cent of all pupils answering.

In addition to the above, 18.8 per cent of all the boys want manual training but cannot get it; 10 per cent of the boys want agriculture but cannot get it.

The value of such data as these to the curriculum-maker of course depends on the extent to which we are going to consult the high school pupil's wishes as to what he wants. Surely, we will all agree to one thing at least, namely, that high school pupils are going to do their best work on those subjects in which they are most interested and for which they feel the greatest need. Caldwell[9] writing in *School and Society* for May, 1923, on principles of curricular development suggests pupil attitude toward school subjects as one of the principles to be kept in mind: "Children learn best, retain longest, and find learning most stimulating and most usefully available when the subject-matter and methods of school work are engaging and genuine, not repulsive and artificial. Those who hold this view believe more and not less effort is put forth by pupils when they are occupied by engaging in real work. Hence if more effort is made, more educational growth may be secured."

9. What subjects pupils would have left out of the curriculum.

The number of boys who would have all Latin left out of the curriculum is 80 per cent of the number now taking Latin of any kind. The girls' percentage on the same question shows 33. For French on this comparison the boys show 51 per cent, the girls 3 per cent; for economics it is 41 per cent for the boys and 52 per cent for the girls; for geometry it is 13 per cent for the boys and 22 per cent for the girls; for algebra it is 5 per cent for the boys and 10 per cent for the girls; for Caesar it is 27 per cent for the boys and 20 per cent for the girls.

One of the conspicuous facts that should be noticed here is the dissatisfaction with Latin and economics. The percentage that would have these subjects left out of the curriculum is unusually large. It is evident that there must not be much interest in or felt need for these subjects so far as the pupil is concerned. Of course this lack of interest or felt need may be due to the content of these courses or the methods of teaching. In economics at least it is probably both. It is a rather generally accepted fact that suitable textbooks for high school

[9] Caldwell, Otis. "Types and Principles of Curricular Development." *School and Society*, Vol. 17, pp. 309-316.

economics probably do not exist at the present time. Also this is the first year for offering economics in these high schools, so it is very probably true that the teachers who are teaching economics have had no special training for this particular field. In view of the fact that there is an increasing tendency today for economics and sociology in the high schools, better textbooks and teaching methods for these subjects must receive more consideration, if they are to make the proper appeal to the pupils.

It is also worth noting here that 51 per cent of the boys now taking French think it should be left out of the high school curriculum. There are 22 per cent holding a similar view relative to geometry. Now what is the value of these facts to the curriculum-maker? The answer can only be as has already been stated, that it all depends upon the extent to which we are willing to recognize the high school pupil's opinion of the value of any subject to him. It is poor pedagogy to take seriously the American humorist, "It makes no difference what you teach a boy so long as he doesn't like it."[10]

10. The high school pupil's chance of failure in passing thru the high school.

To what extent is the number of failures and promotions a test of efficiency in the small high school? To what extent will a small or large percentage of failures in any subject be considered by the curriculum-maker a sufficient cause for keeping a subject out or putting it into the curriculum? The answer to this question will probably depend to a very great extent on why pupils fail. With some teachers definitely set in their opinions that good teaching requires a certain per cent of failures each year it is not difficult to guess why many pupils fail. But this certainly does not account for nearly all. With our slogan today, "Every child a graduate of high school", we seem to be endorsing more and more the opinion that non-promotions do not mean failure on the part of the child so much as failure on the part of the teacher to teach well or on the part of the subject to be within the child's ability. This is probably the growing opinion of educators today, and if we know that the most efficient school system (everything else being equal) is the one that has the fewest failures, its efficiency would be easily measured. Measured by such a standard the curriculum-maker would be justified in removing from the high school curriculum or at least in modifying the content and methods of teaching any subject in which there is a large per cent of failures. All failures, however, can probably never be eliminated as long as child nature exists as it is.

Of the total failures there are nearly twice as many boys as girls altho the enrollment is very nearly the same for boys and girls. Taken by subjects, algebra I and Latin I show by far the largest total failures with the boys exceeding the girls in each case. The fact is that in every subject the total number of failures with the boys equals or exceeds that for the girls. When we turn to the percentage of failures this same relationship holds thruout. Nine per cent of all the boys

[10] Mr. Dooley. "On the Curriculum." *School and Society*, Vol. 1, p. 625.

who have taken algebra I failed, while 5.6 per cent of the girls failed. There was only one failure in second-year algebra. The percentage of boys failing in Caesar is 14 times as great as the percentage of girls failing in Caesar. English shows a small per cent of failures, the first-year English failures being 2.8 per cent for the boys and .7 per cent for the girls, and second-year English being 4 per cent for the boys and .7 per cent for the girls.

French seems to be a bone of contention for the boys since 10.7 per cent of all of them fail. Latin I ranks first in order of failures for boys and second for girls, showing 13.6 per cent for the former and 7.7 per cent for the latter. Arranging our failure subjects in order of frequency we get for the first six subjects:

Boys		Girls	
Latin I	13.6 per cent	Bible	9.4 per cent
French I	10.7 per cent	Latin I	7.7 per cent
Caesar	9.4 per cent	algebra I	5.6 per cent
algebra I	9.0 per cent	French I	2.1 per cent
Bible	8.4 per cent	general science	1.3 per cent
plane geometry	6.0 per cent	plane geometry	1.3 per cent

It will be readily seen that almost all of these subjects appear in the freshman and sophomore years. The tabulation showed that failures in the junior class are very few and in the senior class almost unknown.

11. Holding power of the small high school.

The New York Survey shows the senior enrollment for the high schools of that state to be 34 per cent of the freshman enrollment. Our study shows the senior enrollment 68 per cent of the freshman enrollment. Thus the holding power of our schools seeems almost twice as great as those of New York. This seems not only true of the seven schools comprising this study but also true of all schools in Indiana of this size, as shown by the enrollments for these schools. Finding that the records at the State Department of Public Instruction showed all schools from 51 to 100 enrollment arranged in alphabetical order, the writer took every eighth school of the 320 schools of this size and figured out the percentage enrollment in each year. The total for all these schools shows that the senior enrollment is 60 per cent of the freshman enrollment. Thus all schools in Indiana with an enrollment of 51 to 100 seem to have a strong holding power. For all township high schools in Indiana, 1922-23, the senior enrollment was 47.3 per cent of the freshman enrollment and for the town schools 42.5 per cent.

Our second determinant in curriculum-making is the high school teacher. We shall not take time to discuss this factor except to say that the curriculum-maker cannot leave out of consideration the teacher, who in the last analysis is the one by whom the curriculum is interpreted.

The third determinant of curricula for small high schools is the high school principal. He sees the curriculum from all of its angles and he more than any of his teachers should be responsible for seeing that the curriculum does not become one-sided or ill balanced.

He ought to see both the immediate and ultimate objectives. He must be well versed in the principles and procedures of curriculum-making. For lack of time, however, we cannot discuss our findings relative to this determinant.

Our fourth determinant is the whole element of costs and the financial limitations of the community.

It is perhaps a truism that the chief factor in limiting curricular offerings is the question of costs. For this reason the curriculum-maker ought to look very carefully into this determinant before making suggestions on kinds of curricula. We shall discuss this factor under the following divisions:

(1) Subject costs.

Some facts concerning the annual instructional costs for each pupil by subjects are as follows:

Algebra I varies in one school from $6.90 to $25 in another; geometry I varies from $9.40 to $37.50; geometry II, $13.13 to $87.50; economics and sociology, $7.87 to $16.41; English I, $4.83 to $14.20; physics, $20.60 to $55.40; domestic science, $25.45 to $70; Latin I, $11.09 to $29.53; Caesar, $22.31 to $173.25. In addition to the above the following is offered in not more than one school:

Dairying, $62.50; farm crops, $41.67; farm mechanics, $62.50; bookkeeping, $16; stenography, $13; and typewriting, $34.61. Several important facts might be drawn from the above costs:

In the first place, there is a wide difference in the costs of the same subjects in different schools. In the second place, there is a wide difference between different subjects offered in the same school. In one school for instance a unit of geometry is costing nine times as much as a unit of civics. Another school is spending $173.25 a pupil for those enrolled in Caesar, while this same school is paying $8.75 a pupil for algebra I, $9.19 for general science, $6.47 for vocational guidance, and $11.48 for English I. Are we to conclude that Caesar in the opinion of this school is worth 15 times as much as a unit of English or 27 times as much as a course in occupational information?

In the third place, some subjects run consistently high when compared to others. For instance, the median cost for domestic science is $47.25 and the maximum is $70, while the median cost for English is $11.48 and the maximum is $14.20.

In the fourth place, the cost for watching the assembly is of no little importance. In one school this amounts to $1,590.25 annually. In some of the schools the principal, the highest paid man on the faculty, keeps the assembly more hours than any of his teachers.

In nearly every case the high cost per unit in every subject as shown above is due to one or more of three causes:

(*a*) Too few pupils in a class.

(*b*) Double periods as in the sciences.

(c) A highly paid teacher who receives considerably more than the average.

Most teachers of science would not feel that the double periods in science should be cut out, and no one would claim that a good teacher

should have her salary cut. Hence it would seem that if we are to remedy the high subject cost we will have to work on a plan that will get more pupils in a class.

(2) Per capita cost.

The per capita cost for the high schools in Johnson County for the school year 1922-23 is as follows:

Clark Township	$145.60
Franklin Township (Hopewell)	219.20
Hensley Township (Trafalgar)	165.40
Nineveh Township	129.68
Pleasant Township (Whiteland)	109.67
Union Township	130.00
White River Township (Center G.)	164.80
Edinburg (incorporated)	89.43
Franklin (incorporated)	99.11
Greenwood (incorporated)	85.84

The above probably needs but little comment. Hopewell has the smallest enrollment of any of the high schools in the county, and Franklin has the largest. The per capita costs show $219.20 for the former and $99.11 for the latter. The best way to make per capita costs approximately equal in this county is to enlarge the high schools which of course means greater consolidation.

(3) If we agree with Bobbitt[11] that education should prepare men and women for the activities of every kind which make up, or which ought to make up, well-rounded adult lives then it would seem that there is a distinct need in these high schools for three curricula: agricultural, commercial, and academic or college preparatory. But it is difficult to see how all these curricula can be offered efficiently in a high school of less than 100 enrollment and still remain within the bounds of reasonable costs. Hence our problem turns to the question of greater consolidation.

Since it was known that Johnson County had already consolidated to a considerable extent, an effort was made to find out the extent to which consolidation had already taken place in the townships where these high schools are located and the costs for transportation to these high schools. We find that to these seven schools 830 elementary pupils are being transported and 140 high school pupils. The number of high school pupils being transported at the present time is 34.5 per cent of the total high school enrollment, and for the elementary pupils it is 52.2 per cent of the total enrollment in the county excluding the incorporated districts. The average cost per pupil transported is $33.82.

But while the per pupil cost is one measure of transportation cost, perhaps the pupil mileage is a better measure. The pupil-mileage as here used is the product of the maximum number of miles traveled by the maximum number of pupils transported. Thus in getting pupil-mileage it was assumed that all the pupils transported were taken the maximum distance the hack traveled. While of course this is not true

[11] Bobbitt, F. *How to Make a Curriculum*. P. 7.

the cost would be but little different from what it would be if it were true. Measured from this standpoint then we find the transportation leading into these seven township high schools amounting to 2,001 pupil-miles for the elementary pupils and 342 pupil-miles for the high school pupils, or a total of 2,385 pupil-miles. The average cost per pupil-mile is $2.42.

(*a*) Transportation costs.

As Johnson County is now organized there are three incorporated school districts: Franklin, Edinburg, and Greenwood; there are seven commissioned township high schools: Center Grove, Clark, Hopewell, Nineveh, Trafalgar, Union Township, and Whiteland; there are also 18 one-room schools, one two-room school, and two four-room schools. (Since gathering these data Needham Township has built a seven-room grade school and is now transporting all children of this township into this main building, thus closing six one-room schools in the county.)

Our suggested plan of reorganization and consolidation for this county is to close all one-room schools and the two-room school and organize the whole county on the 6-3-3 basis, with all twelve grades offered at Edinburg, Franklin, Greenwood, and Trafalgar and the first nine grades offered at Center Grove, Clark, Hopewell, Nineveh, Union Township, and Whiteland. At the three grade buildings only the first six grades would be offered.

In any school district where it has been abandoned or where the number of years' work which has been offered in the past has been decreased, all pupils both elementary and high are to be transported to the nearest school district where they can get the work needed. When this has been done the enrollments at the various schools will be as follows, based on the present enrollments:

Where the nine grades only are offered

	Elementary enrollment	*Junior high enrollment*
Center Grove	182	89
Whiteland	199	72
Clark	144	57
Union	125	70
Hopewell	73	37
Nineveh	106	51

Because of its proximity to Franklin and its small enrollment it would doubtless be more economical to abandon the Hopewell school altogether and transport all the pupils into Franklin.

Where all twelve grades are offered

	Elementary pupils	*Junior high*	*Senior high*
Trafalgar	221	111	99
Edinburg	385	166	103
Franklin	531	267	256
Greenwood	306	126	208

But what effect will all this consolidation have upon costs? It will be remembered that our average cost for transportation per pupil-mile is $2.42. In reality with all hacks properly loaded and routed this is doubtless too high, but if we consider this a proper cost basis the additional transportation cost for our suggested plan of consolidation is as follows:

Additional Transportation Costs

Name of corporation	*Total number pupil-miles*	*Proposed cost*
Franklin Township	99	$239.58
Nineveh Township	280	677.60
Blue River Township	375	907.50
Hensley Township	703	1,701.26
Clark Township	334	808.28
Pleasant Township	431	1,043.02
Union Township	173	418.66
White River Township	673	1,634.16
Needham Township	613	1,483.46
Total	3,433	$8,913.52

Now let us see what might reasonably be saved in teaching force by this new plan of consolidation.

After working thru the schedule for our suggested junior and senior high schools and taking into consideration the enrollment at all the schools we are led to believe that a fair basis for estimating the number of teachers needed under the new scheme of organization is to allow one teacher for each 35 pupils (a maximum load) in the elementary grades and 25 pupils as a maximum in the junior and senior high schools. On this basis we get the following results:

	Number of Teachers needed in:		
	Elementary school	*Junior high*	*Senior high*
Center Grove	5	4	
Clark	4	4	
Hopewell	3	4	
Nineveh	3	4	
Union Township	4	4	
Whiteland	6	4	
Union Joint	3	0	
Bargersville	3	0	
Needham Township	5	0	
Edinburg	11		10
Franklin	15		21
Greenwood	9		13
Trafalgar	6		10
Total	77	24	54
Number now employed	102		83
Net saving with proposed system	25		5
Saving in salary	$24,000		$6,930
Total saving		$30,930.00	
Extra transportation cost		8,913.52	
Net saving to county with proposed plan of organization		$22,016.48	

Thus we are led to believe that if the curriculum-maker would give the proper attention to the criteria mentioned above and had the authority to reorganize the schools so as to make the most efficient use of the curricula he had suggested, much more efficient work might be done, and Johnson County alone might reasonably expect a net annual saving of $22,016.48 on teachers' salaries and transportation. What this might mean if applied to all the schools in the state where consolidation is possible would probably surpass the most liberal expectation.

The Purpose and Nature of the Course in Vocational Information

MILO H. STUART

A RETROSPECT of the changed conditions of social and economic life in America impels the study of occupational information as a timely measure in a modern high school devoted especially to vocational education. Serving as a means of orientation in a society which is becoming increasingly complex, such a study is not only expedient but imperative to our boys and girls. Robbed of the first-hand information of trade processes which went on in the period when the home was the cradle of industry, the boy of today suffers a loss detrimental to good citizenship.

In an excursion trip made by an auto construction class to a certain motor company, one of the members of the class for the first time discovered the occupation of his father. It was not that like Jerry Cruncher of Dickens' fame; his father was doing illegitimate business. But the lack of sympathy implied between father and son illustrates how unwittingly both have fallen victims to modern complexity. That sympathetic understanding between parent and child which in times past resulted from contact in the day's work whether it was making of the tallow dip, the manufacturing of wool, or the purveying of garden produce, is becoming atrophied in these days when electricity has supplanted the candle and the baking skillet has given place to the electric oven.

Both father and son have left far behind the agrarian period such as pertained back of 1840. Then the boy had intimate knowledge as to the how and whence of all the goods his family used, for they had only what they or the neighbors created. In the system of barter money found no place and, as a matter of fact, was useful only for taxes. It was good for a boy to feel that it was the muscular energy he himself had put into the wheat and corn, for the girl to be aware that it was her industry at the churn or in the poultry yard that brought them, at the general store, homespun with which to fashion a new suit or a dress.

The boy meets different conditions in our period of urban relationship. No longer a member of a homogeneous group with whom he shares common knowledge, he must now divide both his labor and his profit with his city cousin. New industries, darkly mysterious to him, keep coming on apace. There are the auto and motor-driven farm implements to be repaired, the telephone and radio to be installed, and good roads to be constructed. Money exchange takes precedence over the old system of barter. A sad day for society, indeed, when the boy

has the point of view expressed the other day by a high school lad, "Oh, it didn't cost nothin'. Dad wrote a check." He has been cheated of the experiences which gave his country cousin a richer conception of life. Unlike the boy of fifty years back, he has become a mere consumer and has lost all sympathy for the processes of production and the producer as well. He typifies that tendency which makes for a discontented people.

The youth is not to blame for this state of affairs. But his plight suggests that he is in need of a Moses to lead him to a realization that it is honest to have only what one has earned and that to be an unproductive member of society is equivalent to stealing. If our production is to keep up with consumption he must be taught to appreciate the moral side of labor and to give his best to the job in hand as did the master carriage builder and his apprentice in days of old when every detail of construction passed thru their competent hands.

The aim of the course in occupational civics in the Arsenal Technical Schools, therefore, is to survey for the student the market of occupations. He is free to make his choice, for it is a precious inheritance of democracy that no child is hampered by industrial caste.

The function of the teacher is analogous to that of the linotype machine. Each letter die has a possibility of service. Tho all may look alike, there are little slots of differentiation determining into which groove each die will fall to help compose the galley. The teacher likewise observes individual differences, aptitudes, and temperaments in sending students down the correct occupational groove. Thus at a proper age they advance towards the market of industrial living. It is for the good of the individual and society as well that no mistakes be made with resultant maladjustment so pernicious in our social system today.

Occupational civics in Tech is open only to the entering freshman who comes, as it were, into a new country where laws, customs, and traditions are strange. This constitutes for him a junior state wherein he must learn the important lesson of coöperation in order to live credibly within its jurisdiction for a period of four years. It proves a laboratory for his activity wherein he functions as a leader or a follower. If he learns faithfully all that this community of his peers has to offer, it is confidently expected that his reaction in a larger society will prove adequate.

The course tho elective works automatically to gather in those students who enter with no well-defined vocational aim. The range of subjects offered the beginner is so grouped that if a pupil fails to elect a subject which has in it occupational vision, occupational tryout, or occupational preparation, the elimination involved will force him back upon occupational civics. That is to say—should he elect language, he is headed towards college, thereby deferring his vocational choice four years. Should he elect wood or metal he is led into one of twelve or fifteen different occupations. If he selects one of these at the outset, as is his privilege, he may go direct. So profitable and popular has the course become that more than 1,000 freshmen are at present enrolled.

It has seemed feasible to differentiate the second semester on the basis of its application to boys and girls. But in both divisions the job of the teacher is to give the student a wholesome attitude towards the legitimate occupation of the community. The realtor in the "Own Your Own Home" campaign used as a talking point the statement that a householder contributes more to society and is therefore a better citizen for it. Likewise the teacher holds the thesis that the mastery of an essential occupation stabilizes the community and raises the level of patriotism. For when a man has his trade to fall back upon he need never be tempted by graft or dishonesty no matter how sharp the exigency.

In a large technical and vocational school such as the Arsenal Technical Schools with its enrollment of nearly 3,000 boys alone, there is rare opportunity for the formulation of such a course. As a matter of fact it grew out of the sinews of the school. A selected teacher in each of fifteen trade schools was asked to present, from the standpoint of occupation and civics, material from his own field. Out of this vocational information, lesson sheets were shaped to cover the following points: nature of employment, its future and its rewards; qualifications and training requisite in such employment; related courses offered by the school; excursions to the outside community; and examples of notable successes. These lesson sheets, ten in number, follow the large headings of the United States Bureau of Labor Census which are: agriculture, extraction of minerals, professional service, public service, transportation, manufacture and mechanical industries, trade, clerical service, domestic and personal service. The detailed census list of 10,000 separate occupations under these headings as against 200 at the beginning of the nineteenth century is a hint sufficient as to the need of information on at least the outstanding jobs of the local community. Tech with her fifteen state and federal aid schools, situated in the heart of an industrial community, is particularly well adapted for the study of vocational information. For the purpose of ready accessibility as source material to solve his problem questions, Gowan and Wheatley, one of the many good textbooks on the market, is placed in the hands of the boy.

While the industrial and mercantile life of the community is of paramount importance from the boy's point of view, it is the home, the oldest institution of all, that is fruitful for consideration of activities common to girls and women.

Thru a series of problem questions the girl gains a conception of the social and economic forces at work which are changing the old type of home into one which is in many respects the best man has evolved. She arrives at her own conclusions as to what is worth preserving and what is no longer desirable. The contrast between the old and new reveals the fact that the home, once the sanctuary for all womanly activity, is at present in a transition stage. Some of these activities are now carried on partially within the home and partially without; a few exclusively within the home; most of them entirely away from the home. She reaches the inevitable conclusion that the

increased leisure consequent upon the removal of drudgery from the home places a moral responsibility upon the homemaker. Society has the right to expect from her better child training (the one important activity left) than the world has ever known before. With the manifold scientific, social, and civic agencies there are to aid in the great work, no child's education—physical, mental, moral, or social need be neglected. Moreover the girl who is interested in child training is brought to realize that her home is a laboratory for her chosen vocation. A member of the class whose aim is primary teaching organized a class of her little brothers and five neighborhood children. She took the keenest pride in exhibiting the results of her children's purposeful activities as they stretched thru the season. The experiment convinced her that she had chosen her favorite occupation. Kindergarten teaching is only one of the many occupations open to girls in connection with the care of younger children. Many of the girls have turned into profit their ability to entertain young children by hiring themselves out to mothers and fathers who take an evening off for theatre or concert.

There are many other phases of home life which serve as an occupational basis for a girl's economic independence in the community. The knowledge of foods and textiles gained in the home may lead to expert knowledge which is ever welcome in the world of commerce. Should she chance to grow up in a home where prevention of disease is stressed she has fairly made a start in one of the many occupations included within its scope. Whatever she espouses as her life's work, to be a success in it she must have acquired certain universally accepted habits. These it is the function of a well-meaning home to give.

Perhaps the single economic factor which has been most influential in changing the character of the home is the modern factory system. This has created a wide diversified demand for commercial services, one of the few occupations of women which did not evolve from the home. Mechanical invention following in the wake of this demand has produced office machines which have in turn given rise to highly specialized commercial occupations. A girl working in the field of commerce may elect any one of these small jobs, or if more ambitious, and if possessed of exceptional qualities of personality she may rise to a position where her executive and administrative ability may be turned to account. The school offers both types of training. Other phases of commercial service for women which are considered include insurance, commercial travelling, advertising, real estate, and work in railroad offices.

Most of the positions in commercial service, it seems, do not require college training tho it proves a decided asset to the girl who aims to rise above the crowd. To the girl who means to go into the professional field, it is indispensable.

It is important for a girl to understand at the outset that there are certain exacting requirements which accompany a professional career. These are—a long period of preparation, devotion to research, and a love of humanity which looks beyond pecuniary returns. More-

over, aside from the long-established professions of nursing and teaching the path of the professional woman, as a rule, is not easy. Historically late in entering the field of law and medicine she finds that prejudice still lingers, so tenacious is custom. Specialization, however, aids her cause, and she need not despair of finding her place in certain lines of law and medicine peculiarly adapted to her womanly powers. In such professions as journalism, dramatics, welfare work, music, women are finding increasing success.

While the administration of the course in occupational civics seems to devolve upon teachers who come specially equipped for the task, nevertheless if the course is to be eminently successful the dissemination of vocational information must be part of every teacher's job. It is the teacher nearest the child who administers the most effective vocational direction. Any teacher who carries the confidence of the child carries likewise moral responsibility for his guidance. For it is that teacher and no other who constitutes the Supreme Court for that particular lad, all other influences to the contrary notwithstanding. Therefore any live teacher aware of the welfare aspect of public education is willing and anxious to steep himself in vocational information in order that the confidence of that little child be not misplaced.

The best way to meet the responsibility is to become interested in all his problems, in his successes and failures. Commend him for bad habits overcome. Follow up his success record out in life. By so doing each teacher may in a few years' time accumulate a bulk of vocational information of the most priceless nature with which to inspire the younger brothers and sisters coming along behind him. For, after all, it is the individual success which makes the most convincing appeal be it modest or spectacular in its career.